

# THE RECENT EXPANSION OF BREEDING GULLS ALONG THE BELGIAN NORTH SEA COAST

## RECENTE EXPANSIE VAN BROEDENDE MEEUWEN AAN DE BELGISCHE NOORDZEEKUST

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The status of breeding gulls in the four colonies along the Belgian coastline is presented for 1971-98. The development of the harbour of Zeebrugge, where attractive nesting habitats for terns and gulls were created in the 1980s, has led to the recent exponential growth in the population of Herring Gull *Larus argentatus* (683 pairs) and Lesser Black-backed Gull *L. graellsii* (326 pairs) and to a small but stable colony of Common Gull *L. canus* (7 pairs). The population of Black-headed Gull *L. ridibundus* has maintained its stronghold in the Zwin nature reserve with 67% of the entire Belgian coastal population (4175 pairs). The future for nesting gulls in the study area is uncertain due to plans for the further development of the harbour and uncertainties in other newly created and planned areas.

### INTRODUCTION

The Belgian North Sea coast (Fig. 1) is not the most attractive habitat for coast-breeding birds. The small stretch of only 65 km is densely populated, and mass-tourism during the breeding season has a major impact. In comparison with other European regions the intensity of tourism in the Belgian coastal province, expressed as the number of nights per inhabitant (index 15.04), is only matched by the Cote d'Azur (WITAB 1995). Urbanisation associated with tourist development caused substantial degradation of the natural environment in the Belgian coastal zone. Half of the dune area, which originally covered an area of approximately 70 km<sup>2</sup>, disappeared under buildings, gardens and roads. Within the remaining dune sites, scrub extension is probably the most striking phenomenon (Provoost & van Landuyt *in press*).

In this environment potentials for the development of colonies of terns *Sterna* spp. and gulls *Larus* spp. were seriously restricted to a few protected sites. With the development of the port of Zeebrugge from the early 1980s onwards, vast areas of suitable, relatively undisturbed land came available and breeding colonies of gulls and terns arose. This paper gives an overview of the evolution in breeding status of gulls along the Belgian coast, in relation to the developments in Zeebrugge and nearby colonies. The Mediterranean Gull *Larus*

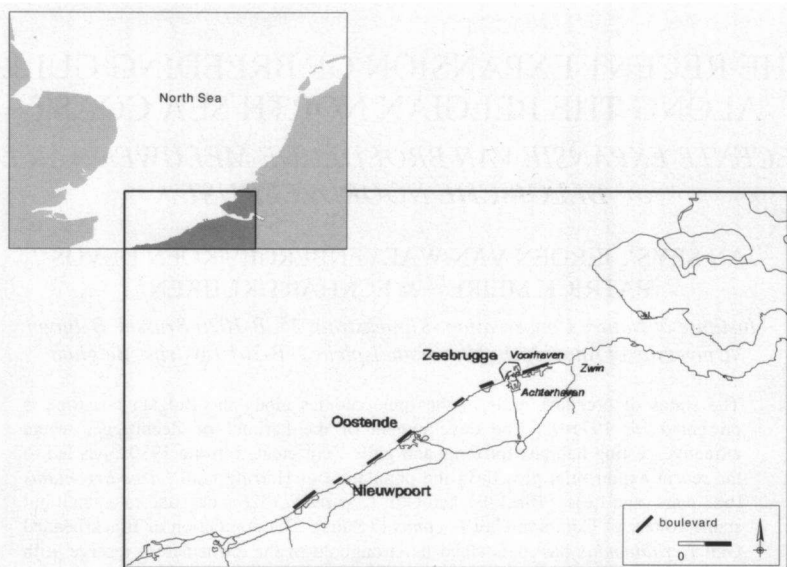


Figure 1. Location of the breeding colonies of gulls along the Belgian coastline.  
 Figuur 1. Situering van de meeuwenkolonies aan de Belgische kust.

*melanocephalus* is not treated here, but will be covered in Meininger & Flamant (1998). Also inland breeding Black-headed Gulls *L. ridibundus* are not dealt with in this paper.

#### BREEDING STATUS

Data on breeding numbers of gulls are obtained from literature (Anselin & Desmet 1980; Anselin *et al.* 1998; Burggraeve 1980, 1981; Debruyne 1990; De Putter & Orbie 1990; De Putter & Willemyns 1992; De Scheemaeker 1987; 1992; De Scheemaeker & Defoort 1992; De Scheemaeker & D'hoore 1994; De Scheemaeker & Lust 1995, 1996; De Scheemaeker & De Ruwe 1997; De Scheemaeker *et al.* 1997; De Scheemaeker & Lust 1998; De Schuyter 1984; 1985; Desmet 1983; Devos & Anselin 1997; Devillers *et al.* 1988; Higler 1962; Lippens & Wille 1972; Lippens *et al.* 1979, 1980; Lust & Dias 1994; Orbie 1991; Paulussen & de Bont 1982; Seys 1986; Vanpraet 1988a-c; Vanpraet & De Scheemaeker 1989; VLAVICO 1989; Willemyns *et al.* 1990; Willemyns & De Scheemaeker 1991), own data of the Institute of Nature Conservation and personal communications with G. Burggraeve, G. De Putter, F. De Ruwe, F. De Scheemaeker and R. François.

Table 1. Numbers of gulls breeding along the Belgian North Sea coast\*, 1971-98.

Tabel 1. Aantallen langs de Belgische Noordzeekust broedende meeuwen\*, 1971-98.

year	Black-headed Gull	Herring Gull	Lesser Black-backed Gull	Common Gull
1971	2300	0	0	0
1972	2800	1	0	0
1973	3000	2	0	0
1974	3400	4	0	0
1975	3000	6	0	0
1976	3400	8	0	?
1977	4400	10	0	2
1978	4900	12	0	2
1979	5000	12	0	?
1980	4850	15	0	2
1981	5100	?	0	0
1982	5000	12	0	2
1983	5020	12	0	2
1984	5000	15	0	2
1985	5500	10	3	1
1986	>6000	15	2	1
1987	9000	30	3	2
1988	7015	28	1	1
1989	7255	32	2	0
1990	6530	74	2	1
1991	5030	97	8-10	1
1992	4600	90	7-8	1
1993	3538	137	12	2
1994	5457	192	37	1
1995	3975	299**	79	3
1996	4150	462**	170	6
1997	4550	561	301	7
1998	4175	683	326	7

\*For Mediterranean Gulls *Larus melanocephalus* see Meininger & Flamant 1998 (this issue). Voor de Zwartkopmeeuw *Larus melanocephalus* zie Meininger & Flamant 1998 (dit nummer).

\*\*Including one mixed pair Herring Gull x Yellow-legged Gull *Larus michahellis*. Waaronder één gemengd paar Zilvermeeuw x Geelpootmeeuw *Larus michahellis*.

Six *Larus* species have been recorded so far in Belgian coastal colonies, five of which are addressed in this contribution (Table 1). Breeding sites are found on four different locations: the Zwin nature reserve, the Zeebrugge port ('Voorhaven'), adjacent industrial land situated more landward ('Achterhaven'), and some roofs in Oostende town (Fig. 1). The Zwin reserve is situated mainly on Belgian territory. Population estimates of the gulls here are exclusive of gulls breeding in the Dutch part of this area.

**Black-headed Gull *L. ridibundus*** Only Black-headed Gulls have been found breeding in substantial numbers throughout the study period. The first pairs settled in the Zwin reserve in 1960 (20 pairs). The population increased rapidly

to 2300 pairs in 1971 and 5000 pairs in 1979. Numbers were stable in the first half of the 1980s, but decreased to 2800-4000 pairs in the 1990s, after a drastic population increase during 1985-90 (5500-9000 pairs). Intensification of depredation by large gulls is mentioned as one of several possible explanations of the reduction (G. Burggraeve *pers. comm.*). At Zeebrugge, Black-headed Gulls were first nesting in the Achterhaven (25 pairs) and the Voorhaven (15 pairs) in 1983 and 1988, respectively. Numbers peaked at 1607 pairs in the Achterhaven in 1994 and at 1050 pairs in the Voorhaven in 1997. Overall, the Black-headed Gull population appears rather stable, and a decrease in the Zwin reserve is partly compensated for by an increase in the Zeebrugge area.

**Common Gull *L. canus*** An isolated record of a breeding pair of Common Gull in the Belgian coastal region goes back in time to 1924 (near Cadzand; Lippens & Wille 1972). From 1978 to 1993 the species regularly bred in the Zwin reserve, but only with 1-2 pairs. The last five years the Common Gull was absent from this area. At Zeebrugge, the first birds were found in 1992; the population appears to have stabilised at 7 pairs.

**Lesser Black-backed Gull *L. graellsii*** Exponential growth has been observed in the Lesser Black-backed Gull, breeding in the Zwin reserve since 1985 and at Zeebrugge since 1991. In less than ten years time, the population increased to 326 pairs, again particularly at Zeebrugge (288 pairs). Mixed pairs of Herring Gulls *L. argentatus* and Lesser Black-backed Gulls were found in the Zwin nature reserve in 1985 and 1986 (two) and in 1990 (Willemys *et al.* 1990; G. Burggraeve *pers. comm.*). Further mixed pairs of Herring Gulls and Lesser Black-backed Gulls were observed in 1992 and 1995 at Zeebrugge.

**Herring Gull *L. argentatus*** The Herring Gull has become an annual breeding bird since 1972. Before, single pairs were found breeding in 1960, 1962 and 1968. Until 1987, Herring Gulls bred only in the Zwin reserve, where numbers increased from 1 to 28 pairs. Currently, the Zwin population is more or less stable at about 50-75 pairs. In contrast, at Zeebrugge (first breeding of 2 pairs in 1987), the population rapidly increased to 602 pairs in 1998.

Meanwhile, roof-breeding was detected as a new phenomenon for Belgium in 1998, when 33 pairs of Herring Gull successfully raised 60 young on seven buildings in Oostende town (R. François *pers. comm.*). Apparently, smaller numbers appeared to have bred here from 1993 onwards (De Scheemaeker *et al.* 1997).

**Yellow-legged Gull *L. michahellis*** In 1995 and 1996 a mixed pair of Herring Gull and Yellow-legged Gull was found at Zeebrugge (De Scheemaeker & Lust 1998).

## SITUATION IN ZEEBRUGGE OUTER HARBOUR

Nowadays the Zeebrugge port accommodates 88% of the Herring Gull and of the Lesser Black-backed Gull populations and all Belgian Common Gulls. Only the Black-headed Gull and Mediterranean Gull (Meininger & Flamant 1998) are more numerous in the Zwin nature reserve (67%) than at Zeebrugge. Although the Belgian Parliament decided already in 1970 to build an outer harbour in Zeebrugge, building activities did not commence until 1974. It took another ten years (1985-86) before the jetties were completed. The first important sand suppletion took place in 1983-84, creating vast areas (150 ha) of flat, suitable land for breeding terns and gulls. Black-headed Gulls started breeding in 1988, whilst Herring, Lesser Black-backed and Common Gull nested in viable colonies from the early 1990s onwards. In the Achterhaven, where raising of industrial grounds with sand was intensified from 1980 onwards, breeding colonies of gulls were very much restricted (to small numbers of Black-headed Gulls since 1982) until 1991. That year a new large colony of Black-headed Gulls was established, leading to an increase in the population from 180 to 434 pairs, and small numbers of Herring and Lesser Black-backed Gulls started breeding in the Achterhaven during 1991-93 (9-35 pairs, 0-1 pair, respectively).

The area of suitable habitat for breeding gulls and terns underwent major changes during the process of development of the Voorhaven. A first colony of Black-headed Gulls was formed in 1988 (in dunes with Marram Grass *Ammophila arenaria*) and grew to 350 pairs in 1991. Due to reclamation of this area the colony was gradually abandoned between 1992 and 1994, with birds moving to a site about one kilometre to the south. Here numbers were rather small initially (250 pairs), but increased substantially from 1997 onwards. As soon as new terrain raised with sand (Flanders Container Terminals, FCT) became attractive for these birds, new colonies were formed there and total numbers reached about 1000 pairs in 1997-98. One breeding site is situated amongst large stones (piled up near a service road) and is occupied by some Common Gulls, whilst single pairs have been breeding scattered over the area.

The Herring Gull had three strongholds within the Voorhaven since its first appearance in 1987. Initially the species was restricted to the fenced area around the LNG-gas terminals near the Oostdam. From 1991 onwards, smaller numbers moved to a new site in the western part of the Voorhaven and the total population grew to 265 pairs. In 1994, the Herring Gulls were not welcome anymore at the LNG-terminals and were chased away. The last few years more and more birds are moving to the sandflats of FCT created in 1996.

Lesser Black-backed Gulls appeared in 1991 in the Herring Gull colonies in the western part of the Voorhaven, and numbers increased exponentially since then.

## FUTURE

The size of the breeding population of gulls at the Belgian coast depends largely on the developments in the harbour of Zeebrugge. For the time being the future looks very uncertain, and we see few reasons for optimism. In the long term the entire western part of the outer harbour has an industrial destination, with only marginal areas remaining as potential nesting sites. As a compensation for the loss of breeding habitat for terns, several alternatives have been proposed (Veen *et al.* 1997) of which the plan to develop a 'tern peninsula' of 5 ha at the southern side of the Oostdam has been retained. Although this peninsula should be created very soon, it remains to be seen whether it can provide an alternative for nesting gulls and whether this is desirable (small scale *versus* conflicts with terns). The situation in the Achterhaven is comparable with the one in the Voorhaven, and in a long term we cannot expect more than marginal colonies to be safeguarded.

In contrast to the unfavourable prospects within the harbour new potentially suitable sites might become available elsewhere. The nature reserve Baai van Heist, an extensive area of beach and primary dunes situated to the east of the Oostdam and created by sedimentation after the construction of the outer harbour, has recently been colonised by terns and might become a new nesting site for gulls in the near future. At Nieuwpoort, the Flemish Government is preparing a nature development programme for the deserted military base and surroundings (Hoffmann *et al.* 1996). The extension of the small salt marsh at the IJzer River, the restoration of the dune-salt marsh transition zone and the installation of anti-disturbance measures may improve the potentials of this area for breeding terns and gulls. With the onset of roof nesting at Oostende recently one can expect this phenomenon to grow to a larger scale. Construction of new sheds in or near the harbour of Zeebrugge can create attractive nesting sites for gulls, particularly when existing colonies are about to disappear.

## ACKNOWLEDGEMENTS

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## SAMENVATTING

*Het aantal broedende meeuwen langs de Belgische Noordzeekust kende een explosieve groei sinds de uitbouw van de haven van Zeebrugge. Vóór 1985 bleef het meeuwenbroedbestand aan de Belgische kust beperkt tot Het Zwin met een groeiende populatie Kokmeeuwen *L. ridibundus* (2300-5000 paren) en enkele broedgevallen van Zilvermeeuw *L. argentatus* en Stormmeeuw *L. canus*. Na eerste vestigingen in Zeebrugge eind jaren tachtig bij het vrijkomen van uitgestrekte opgespoten*

terreinen, kende het bestand van Zilvermeeuw en Kleine Mantelmeeuw *L. graellsii* een explosieve groei vanaf 1991-92, leidend tot de huidige aantallen van respectievelijk 683 en 326 paar. Een kleine kolonie Stormmeeuwen (7 paar) vestigde zich tussen opgestapelde steenblokken in het Voorhavengebied. Vestiging van nieuwe kolonies Kokmeeuwen in de Voorhaven en Achterhaven van Zeebrugge werden ten dele gecompenseerd door een achteruitgang van de aantallen in Het Zwin. In 1995 en 1996 kwamen in Zeebrugge gemengde paren Zilvermeeuw x Geelpootmeeuw *L. michahellis* tot broeden. Het voorkomen van de Zwartkopmeeuw *L. melanocephalus* wordt elders in dit nummer besproken (Meininger & Flamant 1998).

De toekomst voor broedende meeuwen aan de Belgische kust is vooralsnog onzeker. Binnen het Zeebrugse havengebied zal het broedareaal in de nabije toekomst verder afnemen door ingebruikname van industriegronden en verdere aanleg van containerterminals. Buiten dit havengebied zijn echter potentiële broedgebieden aanwezig in het reeds bestaande Baai van Heist natuurservaat en in het geplande reservaat nabij de IJzermonding te Nieuwpoort. Mogelijk zal ook het fenomeen 'dakbroeden' toenemen na de recente kolonisatie door Zilvermeeuwen van verscheidene gebouwen te Oostende.

#### REFERENCES

- Anselin A. & Desmet J. 1980. Ornithologisch Jaarboek van het Brugse 1979-1980. JNM, Brugge.
- Anselin A., Devos K. & Kuijken E. 1998. Colonial and rare breeding birds in Flanders (Belgium) in 1995 and 1996. Report 98/09. Institute of Nature Conservation, Brussel.
- Burggraave G. 1980. Broedgegevens en zeldzame waarnemingen in het Zwin voorjaar 1980. Veldornitol. Tijdschr. 3: 138-139.
- Burggraave G. 1981. Het Zwin. Veldornitol. Tijdschr. 4: 116-117.
- Debruyne R. 1990. Recente broedkolonies van Kokmeeuwen *Larus ridibundus* te Veurne en Zeebrugge. Mergus 4: 47-52.
- De Putter G. & Orbie G. 1990. Het voorkomen van de Dwergstern *Sterna albifrons* als broedvogel aan de Vlaamse kust. Mergus 4: 14-22.
- De Putter G. & Willemyns F. 1992. Broedgevallen van de Dwergstern *Sterna albifrons* in de Voorhaven te Zeebrugge, periode 1990-1992. Mergus 6: 173-181.
- De Scheemaeker F. 1987. Veldornithologisch Jaarboek van NW-Vlaanderen 1985-1986. JNM, Brugge.
- De Scheemaeker F. 1992. Broedvogelinventarisatie in de Achterhaven te Zeebrugge-Dudzele in 1991. Mergus 6: 134-148.
- De Scheemaeker F. & Defoort T. 1992. Broedvogels in Noordwest-Vlaanderen in 1992. Mergus 6: 213-228.
- De Scheemaeker F. & De Ruwe F. 1997. Actueel vogelnieuws Vlaamse Kuststreek. Mergus 11: 155-158.
- De Scheemaeker F. & D'hoore P. 1994. Broedvogels in Noordwest-Vlaanderen in 1993. Mergus 8: 61-78.
- De Scheemaeker F. & Lust P. 1995. Broedvogels in Noordwest-Vlaanderen in 1994. Mergus 9: 26-54.
- De Scheemaeker F. & Lust P. 1996. Broedvogels in Noordwest-Vlaanderen in 1995. Mergus 10: 266-332.
- De Scheemaeker F. & Lust P. 1998. Broedvogels in Noordwest-Vlaanderen in 1996. Mergus 12: 1-47.
- De Scheemaeker F., Vanloo E. & Devos K. 1997. Bijzondere waarnemingen in de Vlaamse kuststreek, periode juni-augustus 1997. Mergus 11: 289-306.
- De Schuyter T. 1984. Veldornithologisch Jaarboek van NW-Vlaanderen 1982-1983. JNM, Brugge.
- De Schuyter T. 1985. Veldornithologisch Jaarboek van NW-Vlaanderen 1983-1984. JNM, Brugge.
- Desmet J. 1983. Veldornithologisch Jaarboek van NW-Vlaanderen. JNM, Brugge.

- Devos K. & Anselin A. 1997. Colonial and rare breeding birds in Flanders (Belgium) in 1994. Rapport 96/20. Instituut voor Natuurbehoud, Brussel.
- Devillers P., Roggeman W., Tricot J., Marnol P. den, Kerwijn C., Jacob J. & Anselin A. 1988. Atlas van de Belgische broedvogels. Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel.
- Higler L.W.G. 1962. De census van de Kokmeeuw (*Larus ridibundus* L.) in Nederland, België en Luxemburg in 1961. *Limosa* 35: 260-265.
- Hoffmann M., Hoys M., Monbaliu J. & Sas M. 1996. Ecologisch streefbeeld en natuurherstelplan voor het integraal kustreservaat "De IJzermonding" te Nieuwpoort-Lombardsijde met civieltechnische realisatiemogelijkheden. Rapport. Universiteit Gent, Gent.
- Lippens L. & Wille H. 1972. Atlas van de vogels in België en West-Europa. Lannoo, Tielt.
- Lippens L., Burggraefe G. & Trio R. 1979. De belangrijkste ornithologische waarnemingen in of bij Het Zwin te Knokke in 1978. *Wielewaal* 45: 116-119.
- Lippens L., Burggraefe G. & Trio R. 1980. De belangrijkste ornithologische waarnemingen in of bij het natuureservaat Het Zwin in 1979. *Wielewaal* 46: 217-224.
- Lust P. & Dias W. 1994. Broedvogelinventarisatie in de Achterhaven te Zeebrugge-Dudzele in 1993. *Mergus* 8: 117-196.
- Meininger P.L. & Flamant R. 1998. Breeding populations of Mediterranean Gulls *Larus melanocephalus* in The Netherlands and Belgium. *Sula* 12: 127-136.
- Orbie G. 1991. De Grote Stern *Sterna sandvicensis*: nieuwe broedvogel voor België. *Mergus* 5: 3-12.
- Paulussen J.A. & Bont A.F. de 1982. A census of the Black-headed Gull (*Larus ridibundus*) in Belgium. *Giervalk* 72: 355-366.
- Provoost S. & Landuyt W. van in press. The flora of the Flemish coastal dunes (Belgium) in a changing landscape. Proc. Life-supported symposium 'Coastal Dunes of the Atlantic Biogeographical Region'.
- Seys J. 1986. Veldornithologisch Jaarboek van NW-Vlaanderen 1984-1985. JNM, Brugge.
- Vanpraet J. 1988a. Interessante waarnemingen in NW-Vlaanderen periode februari-april 1988. *Mergus* 2: 106-120.
- Vanpraet J. 1988b. Interessante waarnemingen in NW-Vlaanderen periode mei-augustus 1988. *Mergus* 2: 158-180.
- Vanpraet J. 1988c. Veldornithologisch Jaarboek van NW-Vlaanderen 1986-1987. JNM, Brugge.
- Vanpraet J. & De Scheemaeker F. 1989. Veldornithologisch Jaarboek van NW-Vlaanderen 1987-1988. JNM, Brugge.
- Veen J., Stienen E.W.M., Breninkmeijer A., Offringa H., Meire P. & Van Waeyenberge J. 1997. Ecologische randvoorwaarden voor de aanleg van een broedplaats voor sterns in de voorhaven van Zeebrugge. Rapport 97/15. Instituut voor Natuurbehoud, Brussel.
- VLAVICO 1989. Vogels in Vlaanderen: voorkomen en verspreiding. Vlaamse avifauna commissie, Bornem.
- Willemyns F., Vanpraet J. & Devos K. 1990. Bijzondere waarnemingen in de Vlaamse kuststreek periode maart 1990-juni 1990. *Mergus* 4: 85-90.
- Willemyns F. & De Scheemaeker F. 1991. Bijzondere waarnemingen in de Vlaamse kuststreek periode juni-augustus 1991. *Mergus* 5: 109-118.
- WITAB 1995. Een gewenst planologisch kader voor een geïntegreerd kustzonebeheer. Rapport 95.06. WITAB/AMINAL, Brugge.



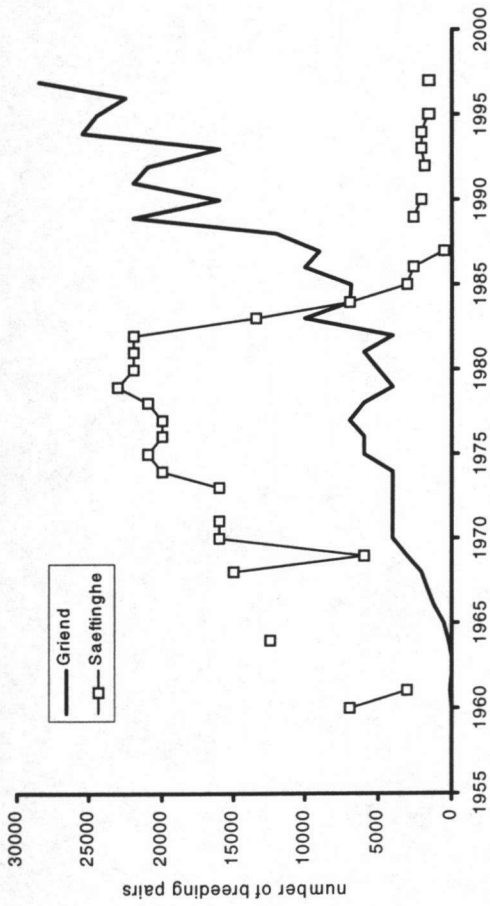


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annually ringed – was classified as relatively high until the mid 1980s, when it